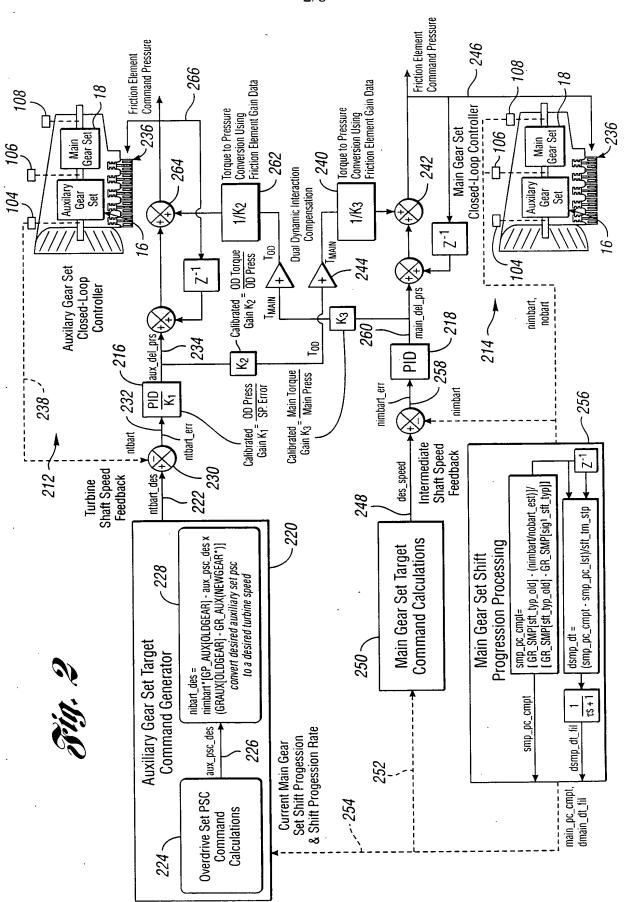
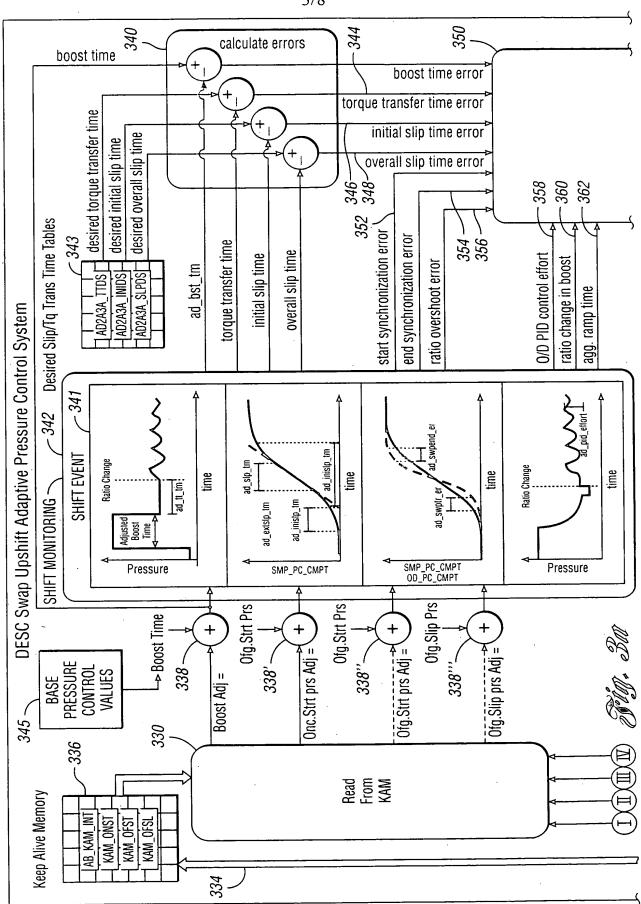


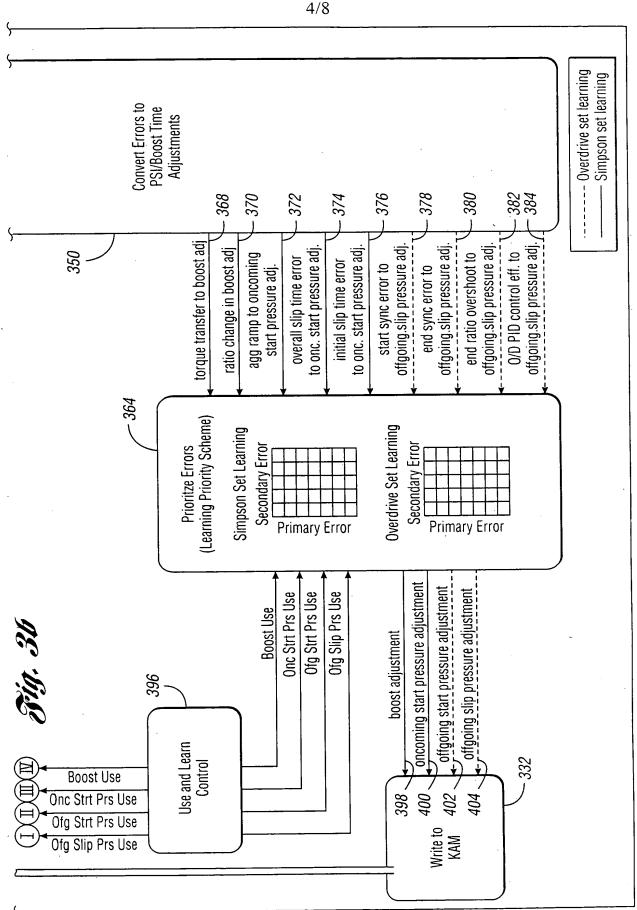
Title: An Electronic Adaptive Swap-Shift Control for an Automatic Transmission for Automotive Vehicles



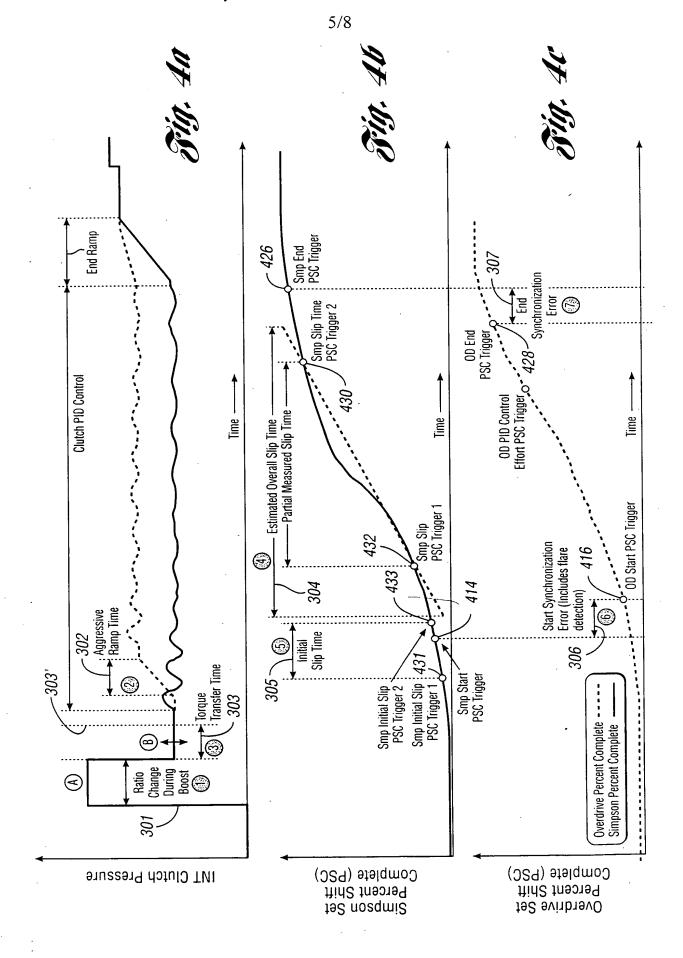
Title: An Electronic Adaptive Swap-Shift Control for an Automatic Transmission for Automotive Vehicles



Title: An Electronic Adaptive Swap-Shift Control for an Automatic Transmission for Automotive Vehicles

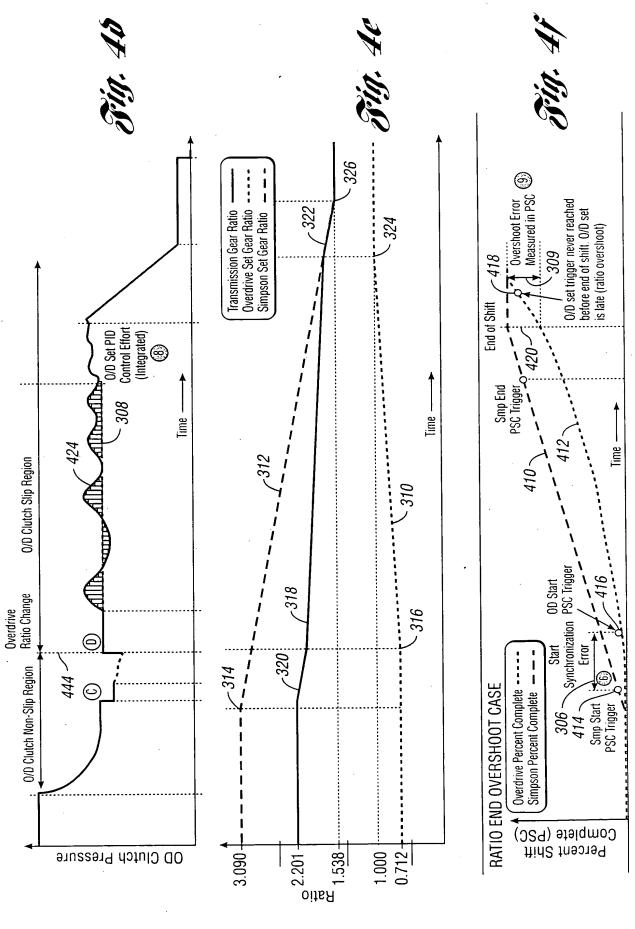


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First Named Inventor: Ihab Soliman Atty. Docket No.: FMC1624PUS/202-1442

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Simpson Gearset Swap-Upshift Adaptive Priority Learning Scheme - Secondary Conditions Detected

	(1) Ratio Change During Boost		2 Aggressive Ramp Reached	③ Torque Trasnsfer Time Error	4 Overall Slip Time Error	(5) Initial Slip Time Error	
Ratio Change During Boost		Adapt (A) for: (1)	Adapt (A) for: (1)	Adapt (A) for: (13)	Adapt (A) for: (1)	Adapt (A) for: (13)	
Detected Ramp Rea		Adapt (A) for: (1)	Adapt (B) for: (2)	Adapt (B) for: (2)	Adapt (B) for: (2)	Adapt (B) for: (2)	
Primary Conditions Liangle Li	nsfer	Adapt (A) for:	Adapt (B) for: (2)	Adapt (A) for: (3)	If ITT error large, adapt (A) for (3) else adapt (A) for (3) & adapt (B) for (4)	If ITT error large, adapt (A) for (3) else adapt (A) for (3) & adapt (B) for (5)	
During A Overal		Adapt (A) for:	Adapt (B) for: (2)	If ITT error large, adapt (A) for (3) else adapt (A) for (3) & adapt (B) for (4)	Adapt (B) for: (4)	Adapt (B) for: (4)	
(5) Initia Time	il Slip Error	Adapt (A) for: (1)	Adapt (B) for: (2)	If ITT error large, adapt (A) for (3) else adapt (A) for (3) & adapt (B) for (5)	Adapt (B) for: (4)	Adapt (B) for: (5)	

Fig. 5a

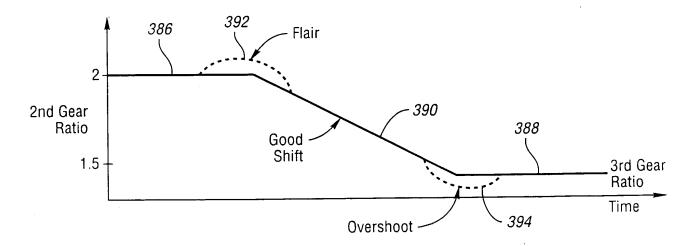


Fig. 6

Title: An Electronic Adaptive Swap-Shift Control for an Automatic Transmission for Automotive Vehicles

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iift Adaptive Priority Learni	(8) O/D Set PID Control Elfort (Integrated)	No O/D set Learn Adapt (A) for: (E)	No O/D set Learn Adapt (B) for: ②		Simpson Set: Adapt (A) (B) for (4) Overdrive Set: Adapt (D) for (8)	If start sync error large, © apt © for else adapt © for © & adapt © for ©	Adapt (D) for:	If end sync error large, adapt (1) for (2) else adapt (1) for (8)	Adapt (O) for (B)
	© End Synchronization Error	No O/D set Learn Adapt (A) for (E)	No O/D set Leam Adapt (B) for: (2)	Simpson Set Still Significantly Adapting, No Overdrive set Adaptation Adapt (A) (B) for (3) (4) (5) See Simpson Set Priorrly Scheme	Simpson Set: (3) Adapt (A) (B) for (4) Overdrive (5) Set: Adapt (1) for (5)	If start sync error large. © apt © for else adapt © for © & adapt & large.	Adapt (O) for: (9)	Adapt (O) (o	If end sync error large, adapt (1) for (2) else adapt (1) for (3)
	Overshoot Error Measured in PSC	No O/D . set Learn Adapt (A) for (4)	No O/D set Learn Adapt (B) for: (2)	Simpson Set S Adapting, No Adap Adapt (A) (B) See Simpson Se	Simpson Set: (3) Adapt (A) (B) for (4) Overdrive (5). Set: Adapt (1) for (9)	If start sync error large, © apt © for else adapt © for © & adapt © for ©	Adapt (()) for: (9)	Adapt (O) for: (9)	Adapt (O) for (9)
	© Start Synchronization Error (includes flare detection)	No 0/D set Learn Adapt (A) for (E)	No 0/D set Learn Adapt (B)		Simpson Set. Adapt (A) (B) for (b) Overdrive Set: Adapt (C) for (6)	Adapt © for: ©	Il start sync error • large, © apt © for else adapt © for © & adapt © for © & adapt © for ©	Il start sync error large, © apt © for else adapt © for © & adapt © for ©	If start sync error large, © apt © for else adapt © for © & adapt © for ©
	③④⑤ All Other Minimal Simpson Set Adaptation On: 角 色	No 0/D set Learn Adapt (A) for: (B)	No O/D set Learn Adapt (B)		Simpson Set:	Simpson Set. Adapt (A) B for (b) Overdrive Set. Adapt (C) for (b)	Simpson Set: (3) Adapt (A) (B) for (4) Overdrive (5) Set: Adapt (1) for (9)	Simpson Set: (3) Adapt (A) (B) for (4) Overdrive (5) Set: Adapt (D) for (5)	Simpson Set: (3) Adapt (A)(B) for (4) Overdrive (5) Set: Adapt (1) for (8)
	(3) (4) (5) All Other (3) Significant Simpson Set Mapplation On: the M	No O/D set Learn Adapt (A)	No O/D set · Learn Adapt (B) for: (2)	Simpson Set: Adapt (A) Blor (L)		Simpson Sel	Significantly Adapting, No Overdrive set	Adaptation Adapt (A) (B) for (3) (4) (5) See Simpson Set Priority Scheme	
	©© Simpson Set Aggressive Ramp Reached	No O/O set Learn Adapt (A)	Adapt (B) for: (2)	No O/D set Learn Adapt (B) for: (2)	No O/D set Learn Adapt (B) for: (2)	No O/D set Learn Adapt (B) for (2)	No O/D set Learn Adapt (B) for: ②	No 0/0 set Learn Adapt (B)	No O/D set Learn Adapt (B)
	Simpson Set Ratio Change During Boost	Adapt (A) for:	No 0/D set Learn Adapt (A)	No 0/0 set Learn Adapt (A)	No O/D set Learn Adapt (A)	No O/D set Learn Adapt (A) for: (4)	No O/D set Learn Adapt (A.) for: (1)	No O/D set Learn Adapt (A)	No O/D set Learn Adapt (A) for: (I)
		Set Ratio Change During Bones	© Simpson Set Aggressive Ramp Reached	(3) (4) (5) All Other Significant Simpson Set Adaptation On: (A) (B)	(3)(4)(5) All Other Minimal Simpson Set Adaptation On:	© Start Synchronization Error (includes flare	detection) (9) Overshoot Error Measured in PSC	© End Synchronization Error	(B) O/D Set PID Control Effort (Integrated)
				Primary Conditions Detected					